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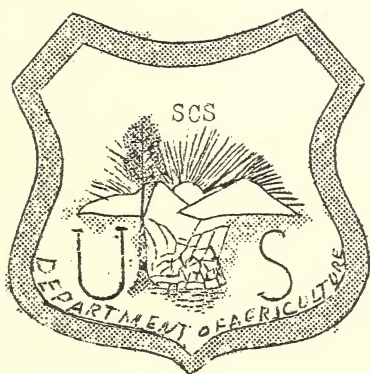
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SEP 27 1937

# THE TAR HEEL WASH OFF

APRIL - 1937



UNITED STATES  
SOIL CONSERVATION SERVICE  
U. S. DEPARTMENT OF AGRICULTURE  
WASHINGTON, D. C.

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

## DEEP RIVER AREA

HIGH POINT, NORTH CAROLINA



## THE STATE COORDINATOR'S MESSAGE

As spring planting gets under way, all indications point to the further expansion of the Soil Conservation Service program by the farmers in the Deep River area. It is also gratifying to note that many of the conservation practices are being adopted and put to use by farmers living outside the project area.

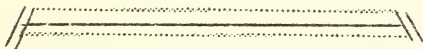
During the past three years a great deal of progress has been made in the direction of improved farming and much good has been accomplished in the work of soil and water conservation. There is still much to be done; but it will take time and much patient, persistent effort. When it is remembered that it took nature from 400 to 600 years to build a single inch of topsoil in the North Carolina Piedmont, we cannot expect to replace the lost soils in a day or a year. In fact, in many places, the matter of reclamation is out of the question. Therefore, the most important problem confronting the farmers at this time is the conservation and improvement of the soils that are left. To this end, the Soil Conservation Service, the State Agricultural Extension Service, the Vocational Educational Department, and other interested agencies are cooperating with the farmers in an effort to establish a complete land-use program on every farm.

Farmers are urged, however, to bear in mind the fact that the ultimate success of the

work depends upon them. But, as has been stated, the Soil Conservation Service stands ready at all times to render the farmer such aid as it can in the solution of his problems, and again he is urged to make them known, either by letter or a personal call at the project office, or by a discussion with the field man when he calls.

The Service has resumed writing cooperative agreements in the Deep River area, and it will greatly appreciate cooperator's advising the High Point office of the names of any farmers whom they know to be interested in having a complete land-use program established on their farm.

Dr. J. H. Stallings  
State Coordinator



## SUBSOILING CONSERVES MOISTURE

There are a number of ways to conserve moisture in the soil, but experiments have shown that subsoiling is one of the best.

Terracing, strip cropping, contour tillage and the use of close-growing vegetation are excellent moisture conserving practices in the erosion control program that is being conducted by the Soil Conservation Service in cooperation with the State College Extension Service. When these practices are supplemented by subsoiling, the moisture-holding capacity of the field is greatly increased.

Many of the Deep River SCS cooperators have added subsoiling to their conservation program, and approximately 200 acres were subsoiled during the past year.

To obtain the best results, it is essential that the ground be dry enough for cultivation at the time the subsoiling is done. If too wet, the clay subsoils are sticky and do not pulverize readily.

The practice of subsoiling, loosens up the stiff, tight clay subsoil, admitting and conserving moisture. When properly subsoiled, very little water runs off the land, under normal conditions, especially on soils with a heavy clay subsoil. And while subsoiling is practically in its infancy, experiments have shown that this practice is very efficient in controlling erosion, increasing water holding capacity of the soil and in increasing crop yields.

## PLOW-BUILT TERRACES

V. R. Harris, a cooperator with the Soil Conservation Service of Franklinton has demonstrated that just as good terraces can be built with a plow as with a tractor at considerable less cost. Mr. Harris terraced 20 acres at a total cost of \$10.00, or 50 cents per acre.

The terracing was done with a turning plow and terrace wing and the only cost was for labor. The terraces were built up to the specifications of the Soil Conservation Service and the State Extension Service and were just as good as could have been built with a tractor.

At the first plowing, 9 rounds or 18 furrows were plowed. At each subsequent plowing, one less round was made, until the final plowing of six rounds, or 12 furrows completed the terraces.

The terraces were built on Appling coarse sand loam, a type of soil that is easy to terrace and all are holding nicely with no indications of a tendency to break.

In addition to costing less, terraces built with a plow, have the further advantage of turning up less subsoil than those constructed with a tractor.



## PASTURE MANAGEMENT

Pastures should be confined chiefly to those lands that are too steep for cultivated crops, or to slopes that are not too severely gullied, because grasses will control erosion on slopes where cultivated crops will not, and at the same time will provide grazing for livestock.

Permanent pastures should be made of a combination of grasses and legumes that have persisted best in the hands of the farmers and that are advised for the particular soil type by the experiment stations. Plants that not only yield well in the peak grazing season, but also start their growth as soon as the frost is out of the ground in the spring and make some growth whenever the ground is not frozen should be used. Such plants not only lengthen the pasture period, but reduce soil and water loss, and prevent the leaching of plant food.

Permanent pasture mixtures for the different sections and soil types should vary, using a combination of grasses and legumes such as lespedeza, White Dutch clover, orchard grass, redtop, rye grass, Kentucky blue grass, Dallas grass, carpet grass, tall oat grass, and if Bermuda grass is properly managed, it is well suited on the thin and eroded soils.

Experiments show that pasture responds to the same kind of fertilizers that give profits on grain and legumes in the same areas. However, in order that fertilizers may pay when livestock products are low in price, it is necessary that the nitrogen for pastures be obtained largely from legumes.



Pastures also require a certain amount of lime, depending upon the condition and type of the soil.

When pastures have become poor and run down from lack of care and over grazing, it is recommended that they be improved by a seeding of legumes and grasses, and top dressed with fertilizer. A disc may be used to secure a good seed bed without destroying the present cover. Galled and washed spots should be mulched with brush or other material and protected from grazing until a good stand of grass has been obtained. These areas should receive an extra application of fertilizer. Feeding on the thinner spots during the winter is profitable.

Rotation grazing is recommended in order to maintain a maximum quantity and quality of pasturage. Grasses must make considerable top growth in order to develop good root systems, and the greater the top growth of legumes, the more nitrogen they gather.

It is recommended that stock be kept out of newly established pastures until the plants have made sufficient growth to afford full feed for the animals in a few hours. However, pastures should be grazed to their full capacity at least once during the grazing season, to keep down weeds. But over grazing should be discouraged in order to prevent soil and water loss.

In most cases, it is necessary to mow pasture twice during the year to eradicate weeds and improve the quality and palatability of the plants. If the grass is allowed to grow and get tough, mowing will improve the grazing quality.

## CONTOUR FURROWING

Green pastures that are beginning to provide tender young grass after the long winter months, may be brown and dry by mid-summer if moisture is not conserved for use during the hot months ahead.

It is not too late to construct contour furrows in pastures to aid in storing the water from spring rains. Contour furrows will not only promote a better growth of grass, but will help to control erosion as well.

Bermuda grass, if available, can usually be sprigged over the entire pasture to advantage at this time of year. It is especially useful where galled spots and gullies are beginning to develop.

Applications of fertilizer will aid in the establishment of a good sod and will tend to control the growth of weeds which compete with pasture grasses for food and moisture. Fertilizer recommendations can be obtained from the county agent.

A good pasture will furnish cheaper feed than any other crop. It reduces labor costs because the cattle themselves harvest the crop. Experiments have shown that a good pasture sod is one of the most effective mediums of erosion control.

In demonstration areas of the Soil Conservation Service, the moisture-conserving value of contour furrows has been strikingly illustrated by the more luxuriant growth of pasture grasses on these areas during periods of hot, dry weather.

## GULLY CONTROL

Application of mulch to severely eroded areas on the farm serves much the same purpose as the application of a bandage to a raw wound.

Gullies and galled spots in pastures and fields represent "infected" areas which are liable to spread unless special treatment is given. Mulching such areas with pine boughs, straw, compost, or other available material and then seeding them to a mixture of grasses and legumes, gives nature an opportunity to heal these wounds.

Where these areas are exposed to the rainages of heavy rains or, to the drying processes of wind and sun, or, to winter cold or summer heat, it is difficult for vegetation to become established. A mulch prevents the seed from being washed off the bare areas, retains moisture to promote germination and vegetative growth, and provides protection against extreme heat and cold.

On severely eroded areas in pastures, the mulch, which eventually rots, affords partial protection from grazing until a good sod has been established. Lespedeza and other legumes in the seed mixture build up the soil.

By using a mulch, farmers can seed these areas earlier in the spring and later in the fall than would otherwise be possible.

## BLACK LOCUST

Black locust is one of the most valuable tree species being planted in the Deep River area by the Soil Conservation Service and farmers will do well to give the cultivation of this tree more consideration. While many other species of valuable hardwoods have been planted throughout the area, Approximately 490,000 black locusts have been planted on the Deep River watershed.

The black locust is a legume, and the action of the nodules on the roots, which produce nitrogen-fixing bacteria, makes it a natural soil builder. Its strong spreading root system binds and holds the soil and aids in the control of erosion. It is adaptable to many different types of soil, but naturally thrives best and grows more rapidly on the richer land. The application of about four ounces of fertilizer per plant, at the time the seedling is planted, speeds up the growth.

In addition to its erosion control qualities, the black locust is valuable as a farm crop, especially for fence posts and poles. By planting the seedlings on the contour, at intervals of six feet each way, the farmer has room to cultivate the land between the rows for a couple of years, which greatly increases the growth of the trees. It is advised that a legume, such as soybeans, crotonaria or cowpeas, be planted between the rows of trees. These legumes should be turned in the fall. Incidentally, this is a further aid to the land owner in qualifying for his AAA payments.

The black locust naturally has an open crown with a crooked stem. To get rapid height growth and a clear, straight trunk, the lower side limbs should be pruned back about half their length from the trunk when the tree has

reached an approximate height of six feet. The best time to prune is during the month of July. With proper care, the trees will make good sized fence posts in 10 to 12 years.

In the propagation of black locust, it is essential that the greatest care be taken to prevent fire from running over the ground where it is being grown, as the plant is not fire-resistant. It should also be protected against grazing and all livestock should be excluded from the area as cattle browse freely on the young trees. However, blue grass thrives under locust trees, and when the plants have reached a height where the browsing danger has passed, the area may be grazed lightly.

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### THE USE OF LIME

In a humid section, such as North Carolina, the tendency of all soils is toward acidity, because the basic compounds are removed from the soil more rapidly than the acids.

Pronounced soil acidity is unfavorable in a greater or lesser degree to nearly all cultivated plants. This condition in the soil may be corrected easily and cheaply by the application of some form of lime.

Lime neutralizes acids in the soil and sweetens it. The addition of calcium and magnesium enriches the soil and aids in the development of thicker and stronger growth of plants, which in turn, binds the topsoil and thereby controls erosion.

## FOREST FIRE CONTROL

It requires only a few days of sunshine at this season of the year to convert the woodlands into a tinder box, and the burning of brush or rubbish, or the careless tossing aside of a live cigarette "butt" or lighted match, may start a conflagration that may do a great deal of damage before being brought under control.

A small brush fire, fanned by high winds can sweep across fields and woods, destroying the vegetation and woods litter that preserves moisture and protects the land from erosion.

Burning any kind of dead vegetation is a wasteful process and an invitation to erosion. If woods and dead grass are turned under, they add humus to the soil, make it more porous and increase its fertility.

Forest fires often destroy valuable timber, but even if the larger trees are not actually killed, they are frequently damaged to the extent that they become a ready prey to harmful insects whose work causes disease to attack the trees and to eventually destroy them. A very small forest fire destroys the seeds that have fallen to the ground and also the young trees.

From the standpoint of erosion control, the greatest damage to woods is the destruction of the covering of leaves, decayed branches and other litter always found under a good stand of trees. This covering, when protected from fire, absorbs water like a sponge and prevents the water from running off and damaging the cultivated areas below.

The careful farmer will do all in his power to protect his own and the premises of his neighbor against the ravages of fire.



## STRIP CROPPING

Farmers in the Deep River area, at the outset of the Soil Conservation Service activities, were reluctant to accept strip cropping as a soil conserving measure. But after giving it a test, they have found the practice a very effective erosion control measure, practical to use in their farm operations, and practically 100 percent of the cooperating farmers within the area have included strip cropping in their conservation programs. In many instances, several fields on the same farm are being strip cropped.

Strip cropping is effective on both terraced and unterraced land. On terraced land, the row crops may be planted astride the terraces, or in each terrace interval, with a strip of close growing vegetation, such as lespedeza, the clovers or grass mixtures, occupying similar positions on the other terraces or terrace intervals between the row crops. On fields with a steep slope, where row crops are planted, terracing is not sufficient and should always be practiced in conjunction with strip cropping.

## WATER CONTROL FACTOR IN CONSERVATION

Water control and conservation is the most important factor in solving the problem of soil erosion. Experiments have shown that where rainfall has the right of way, from 10 to 60 tons per acre of fertile topsoil are washed from unprotected cultivated fields into stream channels each year, resulting in the eventual abandonment of vast areas of agricultural lands.



## WILDLIFE

Lespedeza and vines and shrubs, planted on gullies and other eroded areas for the purpose of arresting and controlling erosion, serve the further purpose of providing excellent food and cover for desirable wildlife, especially quail.

There are approximately 470 wildlife cooperators with the Soil Conservation Service in the Deep River area, most of whom are taking an active interest in the development and protection of their birds. Among these are A. C. Frazier, near Randleman; W. S. Hodgin, whose farm is located on Route No. 1, Greensboro, just north of Gamble's store, and R. R. Ragan, of High Point.

Mr. Frazier owns 90 acres, the greater part of which was at one time under cultivation, but because of the erosive tendencies of the soil, and because Mr. Frazier is a wildlife enthusiast, a considerable portion of the farm was retired to trees and the area turned into a wild game refuge.

In January, 1934, Mr. Frazier had but four coveys of quail, consisting of about 42 birds. He seeded the gullies and other eroded areas to Korean lespedeza and planted a considerable number of erosion-controlling vines and shrubs about the place, and two years later, his stock had increased to seven coveys, numbering 70 birds. And better still, erosion has been brought under practically complete control on the farm.

Three years ago, there were only a few birds on the Hodgkin farm of 267 acres. Food patches were planted and gullied areas seeded down, and today, there are 12 to 15 coveys, containing an average of a dozen birds each on the farm.

When the Soil Conservation Service began the development of a wildlife program in the Deep River area, the birds were scarce on the Ragan farm of 275 acres, located in the Freeman's Mill community. And again, the planting of food patches, and the seeding of gullied and other eroded areas to lespedeza and other soil erosive-resisting plants, have provided a haven for quail, and today there are 12 coveys on the farm with an average of 11 birds per covey.

These are but a few of the many enthusiastic wildlife cooperators in this section who are effectively controlling erosion on their farms by the use of plants, vines and shrubs, and other ground cover, that furnish food and protection for desirable wildlife.



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